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ABSTRACT

To support the position that radio has significant instructional potential for the improvement of language arts skills--especially reading--in developing nations, this paper discusses the use of radio in relation to other aspects of educational development in those countries. The first section of the paper discusses the role of language in educational development (literacy, vernacular languages, international languages, language policy, and language and economic expectations). The second section reviews the use of radio in educational development (the advantages of radio, radio in education, radio and language instruction, and radio and unqualified language teachers). The third section summarizes current theoretical descriptions of the reading process and their congruence with the use of radio (psycholinguistics and reading, reading in a second language, language and language arts instruction, and radio and reading). The last section suggests ways in which radio's potential can be realized in a language arts reading program. (HOD)

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RADIO LANGUAGE ARTS PROJECT

-KENYA-

Reading by Radio

A Position Paper on the Use of Radio
in Teaching Reading Skills
for Educational Development

February 1981

by

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Table of Contents

EDUCATIONAL DEVELOPMENT AND LANGUAGE..... 1

- Literacy..... 2
- Vernacular Languages..... 3
- International Languages..... 4
- Language Policy..... 5
- Language and Economic Expectations..... 7

EDUCATIONAL DEVELOPMENT AND RADIO..... 8

- Advantages of Radio..... 8
- Radio in Education..... 9
- Radio and Language Instruction..... 11
- Radio and Unqualified Language Teachers..... 14

READING..... 14

- Psycholinguistics and Reading..... 15
- Reading in a Second Language..... 19
- Language Instruction and Language Arts Instruction..... 20
- Radio and Reading..... 21

CONCLUSION..... 24

REFERENCES..... 25

ADDITIONAL READINGS..... 27

BIBLIOGRAPHY..... 29

Reading by Radio

Educational Development and Language

Third World development is often characterized by piecemeal efforts to develop first one sector and then another. In developing countries, a particular priority is often set simply by the availability of a donor. In countries where raw material resources, such as oil, have been discovered and exploited, economic development has pulled other development efforts along behind. Education has generally received a high priority, even in countries with limited resources, since it has been through education that the concept of nationhood has been generally realized and fostered. Especially in former colonial countries, efforts to reform the education system were initiated immediately upon independence to foster national unity. From these intuitive and ad hoc plans to use resources wisely and meet national goals, the importance of educational planning slowly emerged. As educational planning evolved during the 1960s and 1970s, it stressed the strong links between educational and economic development. Educational planning during these decades stressed formal schooling, and major attention was given to higher levels of education--secondary and college or university.

It is predictable that in the 1980s greater attention will be placed on nonformal education and that education for life at the primary level and lifelong education at the adult level will be the major focus. In education, the emphasis will be on practical and continuing education. Economic development will continue to be a national educational goal, but there is a newly emerging concern for the quality of life of people beyond their jobs and income. The trend seems to be away from traditional academic schooling toward a flexible, spiraling model of education which can quickly respond to changing circumstances and provide educational opportunities to all ages--regardless of previous educational experience. The purpose of education will be not only individual attainment and material satisfaction, but also a concern for society as a whole. "Education would be the permanent obligation of all of society to everyone of its members, involved concurrently in learning, work and production" (Adiseshiah, 1978, p. 145).

The right to education as one of the basic human rights was proclaimed by the United Nations in 1948--before many Third World countries had achieved independence. Educational planning that now focuses on social, cultural, and individual human resources, in addition to the previously narrowly defined economic resources, suggests that educational planners are at last moving toward education that assures this right. One of the foremost questions within this context of educational planning is what to do about language. Specifically, a variety of questions--depending on the country's linguistic complexity, level of educational development, and aspirations toward participation in regional and world affairs--cluster around literacy, the roles of vernacular and international languages, and the delineation of a language policy.

Literacy

The International Symposium for Literacy held in 1975 culminated in a Declaration which included the following:

> Literacy creates the conditions for the acquisition of a critical consciousness of the contradictions of society in which man lives and of its aims; it also stimulates initiative and his participation in the creation of projects capable of acting upon the world, of transforming it; and of defining the aims of authentic human development. It should open the way to a mastery of techniques and human relations. Literacy is not an end in itself. It is a fundamental human right (UNESCO, 1978, p. 5).

Economic development, in addition to such factors as raw materials and markets, clearly depends on an educated work force at a level congruent with the tasks necessary for a country's economic growth. Obviously, not all tasks require the same level of knowledge or skills, but a country's changing economic conditions and expectations require changing behavior on the part of the producers in that economy. In order to change a citizenry's behavior, some form of education is necessary. In addition to their economic aspirations, most emerging nations are equally concerned about the social, health, and physical well-being of their people--all areas which could be addressed more effectively through a literate population.

To be its most efficient and economical, education requires a literate audience. Although the written word may not carry the same impact as demonstrations, trial and error, or face-to-face oral discussion, it can reach larger audiences with a standardized message and with less cost. National and international literacy campaigns, following a variety of methods, have achieved varied success. Some countries have emphasized primary education, others, adult education. Some have emphasized literacy through formal general education, others through nonformal, specific functional literacy training. Whatever the chosen strategy, literacy has fostered modernization and nationhood. Countries with the most dramatic social and economic changes were often at the front of the war on literacy, mobilizing their sometimes meagre, sometimes newly ample, resources against poverty, disease, malnutrition, and overpopulation.

Illiteracy, in spite of strong efforts, especially during the past three decades, remains a severe problem. Although the rate of illiteracy has been effectively reduced, overall illiteracy has increased to a point that "about one-fourth of the world's current population is illiterate" (Bhola, 1980, p.1). Perhaps even more important than these alarming statistics is their implication that one-quarter of the world is cut off from lifelong education and intellectual development through reading and subsequent participatory action as a result of that reading.

The major lessons of the mass literacy movements of the past decades can be summarized in the following principles. Literacy programs

- must be consistent with national political and social goals;
- must be integrated with developmental planning in all economic and social sectors;
- can combine the development of both linguistic skills and social awareness; and
- can incorporate a balance between nonformal adult and formal primary education.

Current educational planning tends to scrutinize all the resources available and to coordinate literacy training, basic education, and universal primary education. The literacy program in Tanzania perhaps best illustrates how training in one area can sensitize the population and stimulate interest in other areas. In Tanzania this created demands for universal primary education. This and the policy to implement Swahili as the national language show the strong interrelation between all language questions and decisions.

Literacy is not the only means of acquiring knowledge and skills. It is the print-oriented, industrialized world which has placed such a heavy burden of "paper" education on its citizens. New, nonprint ways to reach and educate nonliterate or semiliterate people are only beginning to receive attention in educational development (see Hornik, Mayo, McAnany, 1973, for suggestions on alternate methods of communication).

Vernacular Languages

Two disparate issues have focused attention on vernacular languages: the relationship between literacy and vernacular language, and the use of vernacular language or languages for cultural identity and national pride and unity.

Common sense would seem to tell us that it is much easier to learn to read one's mother tongue than a second language, which one may only partially know. This common sense view has dominated literacy and primary education programs since the 1950s. This view has the substantial professional support of UNESCO, English as a second language and bilingual education programs in the United States, and the theoretical support of applied linguists and reading specialists. In practice, initial reading instruction is in the mother tongue, and reading instruction in a second language only follows after some mastery of reading in the first language and some proficiency in the second language.

Only recently have a few researchers begun to speculate on alternatives to this sequencing and initiated research to test the relationships between first and second languages. At this point, the research seems inconclusive, but one could safely say that "there is no disadvantage in learning through the mother tongue at the initial level and there may, in fact, be advantages" (Shrivastava, 1980, p. 11).

In many Third World countries the question of literacy has dominated decisions about the use of vernacular languages. In other countries, the major force behind the use of a vernacular was fearing what would happen if a foreign language were adopted for educational or official purposes. Sanctioning a non-vernacular language could, it was reasoned, lead to linguistic loyalties to that language, at the expense of the vernacular, and subsequent loss of cultural identity. Although this is a rather vague concept, it has strong intuitive appeal. The loss of cultural identity might mean not only the loss of language but the loss of the creative powers, the moral or ethical code, the intellectual foundations, and the attitudes toward life embodied within language. Conversely, the adoption of a second language, especially a foreign tongue, might mean the alienation of the user from his or her cultural or national roots.

When the relationships between culture, ethnicity, and nation have been the most tenuous, the avoidance of a foreign language has been the strongest. This position is best illustrated by the language planning of the Soviet Union. There are about 130 languages in the Soviet Union, of which only about 20 had a written form before the 1917 Revolution. Desheriyev and Milkanchenko refer to the Soviet Union's contemporary linguistic situation as "national-Russian bilingualism." According to them "there is no official language in the Soviet Union. Equality of all languages is the cornerstone of the Soviet Union's language policy. Any Soviet citizen has a right to address himself to any state institution or public organization in his native language" (1976, p. 392). Primary, secondary, and higher education function in languages of the larger republics. In nearly all cases, the mother tongue is used at least through the primary level, even in areas where the language is scarcely spoken. Throughout the Soviet Union, the mother tongue is encouraged, but Russian is used for wider communication throughout the country.

Certainly the advantage of using a vernacular language to communicate information to a nonliterate population is unquestioned. Radio, for example, speaking the daily language of the isolated rural, can be a strong conveyor of health, simple technology, and farming and animal husbandry information. Any educational planning which sacrifices the direct communicative power of the vernacular for a language of wider use--either regional or international--must compensate in other, usually less economical, ways for selecting this strategy.

International Languages

As quickly as emerging countries threw off their yoke of colonialism, they burdened their students with education conducted in a foreign tongue. This was not a new burden, but a continuation of the educational system developed by the colonialists to educate the bureaucrats necessary to administer the country. Two counter trends operated: the first was to elevate the status of one or more indigenous languages--not always the languages of the majority of the population--to foster national pride and unity; the second was to use a foreign international language. The choice to use a foreign language was based partly on a genuine desire to provide access to the technology of the industrialized world and partly on the fact that this was the language that educated citizens, themselves products of the colonial educational system, used in their daily public lives. As international educational planning became a part of national, political, and economic planning and development in

the early 1960s, integrating an international language into school curricula was deemed essential. Western education models, partly based on strong science and technology components, required extensive language training to reach a level of proficiency necessary to read scientific and technical journals. This development goal, coupled with the need for international political communication, guaranteed a place for international language--most often English or French.

The necessity for foreign-language skills was reinforced by the presence of foreign donor agencies, businesses, and commercial agents. Military alliances and aid further supported the need for trained personnel who could communicate well in an international language. Additionally, training and education programs for developing country personnel in the donor countries provided motivation for students to acquire the necessary foreign-language skills where several years of unmotivated school studies had failed.

Several patterns emerged in the Third World for formal language study in the schools. At one extreme were monolingual educational systems where indigenous languages were not used for educational or official purposes. This language policy was characteristic of several Latin American countries where Spanish was the official language, but spoken natively by a minority of the population. In several African countries (most often in countries with considerable linguistic complexity) this is still the policy. Perhaps at the opposite extreme is Tanzania where the goals of national and social unity were exemplified in the adoption of Swahili as the national language for education and commerce, although this has not been implemented at the higher levels of education.

Many other countries have adopted language policies to develop some degree of bilingualism, with one of the languages being an international language. Over the past two decades, these policies have been modified with the international language sometimes being upgraded, sometimes being downgraded. Some programs are, therefore, truly bilingual. In others, the international language is taught initially as a subject, and gradually it becomes the dominant instructional medium. In still others, the international language is studied only as a subject, with students achieving a proficiency similar to that of U.S. students studying a foreign language.

It is not the purpose of this paper to suggest one pattern as preferable over another because no one pattern will serve all purposes. The relationship between national educational objectives, national language policy, and their implementation provokes questions that must be resolved by educational planners.

Language Policy

Educational planning rather slowly found its way into development planning, and only recently has language planning begun to receive the disciplined attention required for the delineation of a successful language policy. Language policy was developed on a rather ad hoc basis through trial and error, but the implications of language choice decisions were not necessarily anticipated nor systematically studied.

Das Gupta's following simple description of language planning illustrates the effect of language decisions on other areas of educational planning:

> The first step is one of valuation of language resources. In post-colonial settings, this implies a general devaluation of the colonial language and systematic attempt to displace it by one or more revalued national languages. This part of language planning involves the assignment of preferences to languages and relating these preferences to a functional ordering (Das Gupta, 1976, p. 383).

For example, the colonial language may be selected for educational or administrative purposes, and a national language may be selected for other communicative purposes. For the educational system, such a decision means developing plans for training language teachers in the colonial language, and buying commercial teaching materials from abroad or locally producing them. If educational opportunities are expanded to a greater proportion of the school-age population, as is often the case in emerging countries because it is a politically popular move, this decision may represent a very large manpower and budgetary burden.

Restricting the use of the colonial language to, perhaps, international commerce and politics may partially alleviate the educational burden because not all students will necessarily receive instruction in the language. It may, on the other hand, create new problems in preparing students to use the national language at a level, and for purposes, which were previously not done. Again, teacher-training materials preparation may be costly and time-consuming tasks.

> The second step, not necessarily sequential, is then to plan for developing the preferred language. This involves evolving a standardized form of the language, improving the writing system and extending the capability of the language commensurate with the projected demands made on it by prospective user populations (Das Gupta, 1976, p. 383).

Most people who fail after attempting to learn a second language do so because they lack the motivation to pursue this very difficult task. One writer estimates that "the number of Africans able to express themselves effectively in these two languages (French and English) hardly surpasses ten percent of the population" (Munisi, 1980, p. 83). Certainly the status of the language in the learners' daily lives is an important motivational factor. Some of this status can be engineered by carefully integrating the language into the country's economic life. Language training and related job incentives are often potent features of such language engineering. At times, the material rewards may be too clearly related to the use of one language in the commercial sector in opposition to the use of another language in educational or cultural activities.

Language policy, most often developed in response to a specific political situation, must be carried out through the schools. Government may vote into use one of several vernacular languages as the national language or the educational medium, but it falls upon the schools to provide instruction that will ensure proficient users of the language. Government leaders, in another

instance, may feel a bilingual population would be an ideal objective, but the schools must develop viable bilingual programs to meet this objective.

An overly ambitious language policy--often the result of ethnic and political complexities--may overburden an educational system to such a degree that good language instruction is impossible. A language policy, which at its simplest may require instruction in two languages for all or part of the school-age population, may be the single, largest educational expenditure.

Language and Economic Expectations

Multilingual speakers who have not received academic training developed their language skills because of economic and social necessity. The camel driver and souvenir vendor at the Egyptian pyramids can bargain with tourists from major European countries. Hong Kong waiters can provide food and service in Asian and European languages. Children of multicultural parentage converse with grandparents in one language, mother and father in another, and the children next door in still another.

Travelers can provide their own stories of the boundless ability of unschooled peoples around the world to communicate--within their restricted situations--in a manner far superior to the American college graduate with four to six years of academic French, Arabic, and so on. From what we know now from the research in language acquisition, this should not be surprising. The single most important factor in rapid language acqusition is the need to use the language in genuine communication situations. The child acquiring his or her first language, in addition to an inborn propensity to learn, must control his or her environment through language interaction. Waiters, drivers, and guides depend on their ability to adequately communicate with their clients for their livelihood. The student who becomes bilingual in the academic setting is, unfortunately, the exception rather than the rule.

Learners question the investment of time and energy required to learn another language when they cannot see the personal, usually economic, advantages. Recognizing these language acquisition constraints, educational planners should reassess their investment in developing bilingual or trilingual programs, curricula, and textbooks because rudimentary knowledge of the language is the only possible goal. More than twenty years' experience in Afghanistan implementing language plans demonstrates this point. Dari and Pushtu, the two national languages with an almost equal number of speakers, have equal status in the educational system, and language arts materials were developed for both languages. Still, Pushtu speakers, especially those in or near Kabul, learn Dari; Dari speakers generally do not learn Pushtu. Some speakers learn English, the favored international language, when their economic situations require it.

Especially in developing countries, the language(s) which seem to have the most economic rewards are those which learners are most likely to learn successfully. Language planners can develop the most logical scheme for giving status to chosen languages. If, however, there is a competing language in the commercial or business sector, it will probably be learned better. Presently, it appears that English dominates this position in international commerce. In Egypt, for example, where economic aid is pouring in and where

new businesses are opened daily by foreign companies, the desire to learn or improve one's English has outstripped all other nonformal education activities. In other African countries where illiteracy rates are high, newly literate adults are requesting English-language instruction as soon as they learn the fundamental reading and writing skills of their mother tongues.

This motivation can work to the advantage of a country that is trying to motivate its population in learning a national language. If learning the language increases job marketability, people will learn the language. But this may have other serious social consequences. Rural migration to economically dominant cities where the national language is also dominant causes a new kind of social disaster. There are other dangers as well. An unintentional linguistic imperialism may develop where language skills and proficiency dominate all considerations of who gets what jobs, who receives higher education and training, and so on. Rather than serving as a tool for economic and social development, the non-mother tongue--whether a foreign language or a different indigenous language--becomes a barrier between the haves and the have nots. Economic planning, therefore, must go hand in hand with language and educational planning.

Educational Development and Radio

Radio must offer unique advantages to successfully compete with other media used in the educational process. Some of these advantages, such as costs, attitudes of users, and acquired skills or knowledge, are quantifiable, and they are generally agreed upon by media experts. This section will present some of these advantages and review educational development projects which illustrate them.

Advantages of Radio

In lower-income countries, the lower costs of transistorized radio receivers have resulted in wide distribution and use of radios. Radio, therefore, can reach a much wider audience, including those in formerly neglected, isolated rural areas. In higher-income countries, the relative low costs of both radio receivers and FM broadcasting have enabled broadcasters to focus on smaller specialized audiences. School and university stations produce programs dealing with classroom instruction and curriculum innovation, in-service training for teachers, school-community relations, vocational training, extension courses, and classes for the homebound or hospitalized, among others.

Since it is an aural medium, radio can reach a non-literate audience. This makes it an especially appealing medium in developing countries where literacy rates are generally low, especially among the rural poor. In societies in which information is aurally received, radio is a natural extension of this process. One of radio's unique strengths frequently mentioned in the literature is that it provides a "theatre of the mind." It encourages, and perhaps requires, listeners to concentrate their attention and to use their imagination. An aural medium is, therefore, not inferior to visual media even where they exist side by side.

Radio also has immediacy. It can both convey events immediately, without the time lag resulting from print, and at the same time create the feeling of

being there. It can transport listeners through time and space, but always make the listener feel he or she is a part of the action. Radio seems to require greater active mental participation than a purely visual medium or television, which is both aural and visual. McLuhan characterizes radio as a hot, active medium and television as a cold, passive one. This is an especially important feature in children's education.

Radio has a special advantage in countries where there is a strong oral tradition. In a sense, it extends this tradition and incorporates new kinds of information that can be passed along orally. Well-designed educational radio programs can both preserve the oral heritage and develop new traditions by radio. By capitalizing on this oral tradition, a radio language arts program could make far greater gains than a solely print-based program. Still another feature of radio is that it can be easily combined with person-to-person communication, visual modes, or both. In American education, other media that have been used to support aural communication have often overwhelmed radio. Perhaps this is due to our faith that a picture may equal a thousand words. Where logistical and cost constraints have minimized the use of visual media, radio has proven to be an effective, and sometimes superior, medium.

Radio in Education

According to Jamison and McAnany (1978), the educational uses of radio fall into three broad categories: improving educational quality and relevance; lowering educational costs; and improving access to education, particularly in rural areas.

It is the first category which has largely motivated educational broadcasters in the United States. Although the early hopes for efforts in educational television have not been realized, the expectations were clearly the same. Broadcasters expected that the use of radio or television would enhance and vitalize classroom teaching. Countless hours were often spent in developing broadcasts that were improperly or ineffectively evaluated or, more disappointingly, proven to be no more effective than traditional classroom teaching. One possible explanation of this is that earlier programs were simply broadcasts of a traditional classroom lesson, rather than lessons designed to maximize the media's unique qualities. They merely recorded instruction rather than improving the quality of it.

A lack of enthusiasm for educational radio in the United States has not dampened the eagerness to explore the medium for low-income countries. It is clear that well-designed radio lessons can supplement and extend the poorly trained teacher's capabilities. It does this at less cost than either preservice or in-service teacher-training programs to upgrade teachers. As demonstrated by the Radio Mathematics Project in Nicaragua, radio is cost-effective when compared with the only viable alternative--a print-based instructional program (Gonzalez, 1980).

In reviewing a number of studies on the effectiveness of instructional radio, Jamison and McAnany convincingly conclude that "radio, properly used, can teach as well as (or, in some cases) better than traditional instruction" (1978, p. 31). Drawing on a number of case studies of radio-based education

programs, they suggest several important implications for educational development in low-income countries.

Start-up costs for a series of radio lessons are high, especially for an innovative or experimental series. The larger the audience, and the longer the lessons are used, the more economical the lessons become. An additional factor which reduces the costs is the decreased dependency on paper and printing. Still another factor is how quickly students can master the skills being taught. If students can learn faster, or fewer students fail to advance, it is less costly for the educational system. The Radio Mathematics Project in Nicaragua used radio as the major medium of instruction with little or no dependence on visual equipment, charts, models, or printed worksheets. Evaluation shows that radio instruction not only improved the students' mathematics performance, but reduced the number of students who failed to advance to higher grades (Searle, Suppes, and Friend, 1978).

In Kenya, radio correspondence courses to upgrade teachers demonstrated radio's effectiveness in teaching the prescribed material at a substantially lower cost than traditional instruction. More significantly, it allowed this upgrading to occur without removing teachers from the classroom during a time when the school population was rapidly expanding. The Kenyan project also illustrates the combined use of media, with radio supporting the print-based correspondence program. The risk in using radio in this subsidiary manner is that students and educators alike begin to view radio as incidental and, eventually, unessential. When it is denigrated to this role, it is often poorly integrated into the lessons, and becomes, as a result, boring and superfluous. A study of attitudes toward radio and instruction by students of the Open University of England indicates that where radio programs were appendages of units rather than planned parts of them, students did not listen to them (Bates, 1979, p. 119).

Likewise, radio materials which do not address the specific orientation and needs of a community do not strengthen educational development. In fact, they may be contrary to it. The radio schools of the Tarahumara of Mexico apparently transferred the primary-school curriculum from the traditional, urban-job-oriented school. As a result, the schools unintentionally encouraged the student to leave his or her community for employment opportunities, thus draining the community of its better human resources.

Radio education can be an effective means of reaching large numbers of students who might otherwise be forgotten. For genuine educational development, radio cannot, however, simply broadcast conventional lessons developed for a different population and, perhaps, developed for a different time.

The literature on the use of radio in educational development describes a number of formal and nonformal projects which suggest a significant educational role for radio in developing countries. Many of the projects point more to potential than to actual achievement. Lack of achievement is, however, seldom the fault of the medium itself.

Radio and Language Instruction

Radio as a medium of instruction has been used in many different countries with varying degrees of enthusiasm and success. Programs have been designed for formal classroom instruction, for distance teaching and correspondence courses, and for open broadcasts to general audiences. Most have been conceived as enrichment programs or as supplements to classroom instruction, textbooks, and other audiovisual media. Many have been quickly abandoned because of inadequate funding, unconvincing results, or dwindling interest. Others have continued, and still others have been created to serve new audiences. This section will review briefly some of the projects that illustrate the range of radio in language instruction.

The most widespread use of radio in language is in adult literacy programs around the world. UNESCO reported in a mid-1969 survey that utilization of broadcasting was increasing (Maddison, 1974). Forty surveyed countries were using, or had used, broadcasting techniques to combat illiteracy. All 40 countries reported using radio, while 20 also reported using television. Broadcasting can, of course, be used for various purposes in literacy work--teacher training, promotion, publicity, motivation, as well as direct teaching. The reasons cited for using radio, according to literacy trainers themselves, include its power to reach inaccessible and isolated communities, and capacity to reach people where conventional classroom teaching is not practical. Radio's simplicity of operation at the receiving end and its entertainment value and popularity as a medium are also important advantages. Where television and radio exist side by side in literacy programs, radio is generally the junior partner, continuing to serve, nevertheless, in places, and in unique ways, that television cannot. The obvious advantages of radio in low-income countries with geographically scattered populations has encouraged educators to use radio in formal and informal language instruction. It is not the purpose of this paper to survey the extent of radio use in language teaching, but to offer a few examples to illustrate its potential, including the relationship between a country's complex geography and its willingness to experiment with language teaching by radio.

As early as the 1950s, Thailand began to teach English with the help of radio. Efforts to upgrade education and provide equal educational opportunity to the entire country required creative methods to reach its widespread and frequently isolated peoples. Despite the lack of qualified English teachers because of the decision to make English the international language of Thailand, the practical decision to teach English, partly by the use of radio, enabled the country to implement educational reform quickly. Soon after the introduction of language instruction by radio, in-service teacher-training lessons were broadcast. In a variety of ways, Thailand has continued to use radio for language teaching in both formal and informal settings.

The scattered islands making up the Republic of the Philippines make radio a practical choice as an educational medium. Near the end of the 1950s, the Philippines began to use radio for language instruction in the classroom. Current efforts to give Pilipino equal status with English in the educational system have spurred new interest in radio language instruction.

In the vast, sparsely populated regions of Brazil, radio has been used as an important medium in literacy and basic education programs. During the first decade of operations, the Movement for Basic Education estimated that more than 400,000 peasants in northeast Brazil learned to read through the radio schools.

For quite different reasons, European countries have used radio to teach foreign languages. Sweden started language courses for adults in 1925. It was the success of these programs which paved the way for the emphasis on bilingual language skills in the schools and the introduction of English as a required course by 1947. Radio brought foreign languages and foreign-language study that was previously available only to the wealthy or adventurous who could study or travel abroad to significant segments of the society. The Netherlands also began broadcasting foreign-language instruction at about the same time. Later they added instruction in some of the languages of their colonies and former colonies. Now, radio and television are being used to teach a large and diverse immigrant population. In a country the size of the Netherlands, the appeal of radio is not that it covers widespread geographical areas but that it can economically reach a smaller audience which the classroom does not cater to.

It is England, of course, which has done the most extensive English-language teaching by radio. They, too, have been providing language instruction by radio for more than 50 years. With the tremendous worldwide growth of interest in learning English over the past 20 years, the BBC has broadcast a variety of English-language series, many of them tailored to the specific needs of an audience. At times, these broadcasts supplement work in a specific school curriculum. In other instances, they are open broadcasts for a general audience, with or without supporting instruction or textbooks.

In the United States, radio has not been used in any major way for language instruction. The only instances in which radio seems to have played a part in classroom instruction have been the use of shortwave broadcasts in foreign-language classes. This potential has been discovered (and rediscovered) by individual foreign-language teachers searching for samples of genuine foreign-language usage available in the United States. News broadcasts have been particular favorites because the content is usually already familiar to the students. Apart from these rather isolated and individual uses, radio has been largely ignored as an instructional medium for language teaching in the United States. There have been examples, however, of cultural enrichment broadcasts which were designed to provide the listeners with the opportunity to expand their linguistic and, more significantly, their cultural repertoire through music, songs, poetry, and so on.

There are in the literature no descriptions of radio language instruction in which the broadcasts have been designed to serve as the sole means of instruction. Programs are sometimes used as the only instruction, however, especially in nonformal adult education. In other instances, the broadcasts may be minimally supported by correspondence lessons, at other times supported by a textbook--if the listener chooses to buy it. Many of these radio lessons are simply a standard textbook read over the air. At best, this narration provides a pronunciation model of what is in the printed text, but none of the special advantages of radio as a medium have been used. This is perhaps understandable when we consider that the broadcaster--a non-specialist in

language instruction--can easily reproduce on the radio what appears to be credible lessons already designed for the classroom by a language educator. An alternative to this, followed in some failed projects, is for the language educator--a non-specialist in broadcasting--to produce the broadcasts. This is equally amateurish and uninteresting when compared to professional programs. This is especially critical in nonformal broadcasting which has to compete with the entertainment programs on the radio.

Unfortunately, the evidence on the effectiveness of radio in language teaching is largely anecdotal. Few radio projects have had controlled and sustained evaluation. Few of the now-abandoned projects have been adequately documented. In some cases, careful attention has been paid to evaluative conclusions supporting the use of radio, but no detailed descriptions have been provided of the broadcast materials or the evaluation methodology. The biggest gap in the meager literature, however, is in descriptions of the lessons and the samples of the broadcast scripts. One does not have a full description of the many variables which go into educational broadcasting and cannot properly evaluate the conclusions drawn by the author.

One senses that where such projects have failed, it has most often been the fault of factors other than the use of radio as a medium. In many instances, the instructional broadcasts have been poor in either the pedagogy or in the execution by inexperienced broadcasters. In some cases, inadequate orientation of teachers and administrators has resulted in resistance to the radio broadcasts, with the result that radio lessons never received a fair hearing nor evaluation. In other cases, poor teaching orientation and follow-up has resulted in teachers viewing the radio broadcasts as a holiday or break for themselves, spending the broadcast lesson in the teachers' lounge. In still other instances in the Third World, the radio broadcasts were designed and executed by temporary expatriate specialists. Frequently, they left behind broadcast materials, but no trained staff to evaluate, revise, update, and expand these materials, resulting in a growing resistance to the materials as they become outdated. Probably the most widespread reason for discontinuing radio's use has been the failure of education authorities to provide adequate numbers and maintenance of radios for the classrooms.

In spite of the rather extensive use of radio in educational development, the medium holds more potential for language instruction than that which has been previously attempted. It is typical for radio programming to serve as the "icing on the cake" of language instruction. It provides natural dialogues spoken by native or standard speakers, exemplifying real or accurate models of the language. It provides listening comprehension practice for more advanced learners. It talks about language, especially its grammatical features, and illustrates them by example. It records literary works the learners are reading, and follows with discussion of the literary work. In most instances, broadcasts are clearly meant to supplement in-class work. There have been no reported attempts to use radio as the major medium of instruction in language programs. This obviously awaits more creative broadcasters and language teachers.

Radio and Unqualified Language Teachers

The quality of language instruction is probably going down. Although this is difficult to prove, except with anectotal evidence of older people who went to school "in the good old days," there are statistics which demonstrate why this is likely to be the case. The numbers of children attending schools are increasing, both because of burgeoning population increases and because of expanding opportunities for children to attend school. Not only are overall numbers increasing, but the percentage of children attending school is rising as well. The number of unqualified teachers is rising, and the proportion of qualified teachers is shrinking, again because of the rapidly growing school populations in relation to teacher-training facilities, programs, and incentives for teaching. Under a colonialist, elitest educational system all teachers may have been qualified. Under a universal primary education policy in a low-income country, few may be qualified.

Radio is an excellent medium to aid the unqualified teacher in the classroom. In subjects such as English-language arts, where the unqualified teacher is likely to feel very insecure, good radio broadcasts can provide the language and pedagogy that can make the teacher successful. Ideally, language learning would occur with an excellent teacher and a few students in the language environment of the target language. In the less-than-ideal real world, radio can bring into the classroom much of what is lacking--native speakers engaged in real communication, well-designed lessons, and a sense of individualized practice. The teacher benefits in several ways. Radio broadcasts relieve the teacher of some of the burden of preparing a difficult lesson. They give a language model which the teacher may use to improve his or her own language. They present a model for a good lesson and curriculum design.

The problems in rural schools are usually compounded. For example, there are often higher proportions of unqualified teachers, teacher and pupil absenteeism, and shortages of books, supplies, and classrooms. Particularly where students are scattered over wide areas, radio can serve rural populations with more efficiency and less cost than any other means at present. Radio lessons specifically designed for those isolated from the mainstream environment can provide adequate language skills development and convey information relevant to the interests and well-being of the students. Out-of-class activities that help support the school programs can draw directly on the particular experiences of the rural children. Relevant curriculum materials and effective teaching methods can help bridge the gap between rural and urban education characteristic of most developing countries.

Reading

The one thing reading specialists have agreed on over a long period of time and through numerous trends in reading theory is that children learn to read by reading. To propose, then, that children may learn to read largely by listening to the radio may seem inconsistent with any theoretical position supported by reading specialists, psycholinguistics, or primary-school teachers. This section of the paper will, therefore, review current theoretical positions on the reading process and highlight those that are congruent with the use of radio as an instructional medium. This discussion is not intended

to present an unbiased review of the massive literature on reading, but to underscore the economic and technical advantages of radio and its potential as a tool for improving the language education of children in developing countries.

Psycholinguistics and Reading

It is a commonplace that some children learn to read under the most adverse conditions, in a sense teaching themselves to read; others cannot learn to read effectively under what seem to be favorable schooling conditions. What this phenomenon tells us is that reading is a very complex learning activity incorporating a host of cognitive skills that are only beginning to be studied from new perspectives.

The most informative research on reading in recent years has been the emerging field of psycholinguistics, a discipline which developed from merging trends in linguistics and psychology. Linguistics has given primary attention to language as a system; psychology to behavior in response to circumstances and environment. Where the disciplines merge is in the study of language as a form of behavior. In order to better understand language as a system, linguists look at the means by which children acquire their language system, while psychologists study the child's emerging language as a behavioral system in relation to other systems. Clearly, reading research has been strengthened by a more enlightened linguistics which looks at language users in relation to both their experience and the linguistic tasks expected of them.

One of the notions central to current psycholinguistic theory is that speech and/or writing are but realizations of some deep underlying abstract levels of language and meanings, many of which are universal throughout language. Whatever one may feel about the cumbersome technical approach necessary to analyze language in current linguistic theory or about the possible shortcomings of the theory itself, the insights gained from this new perspective on nature of thought, meanings expressible in language, and how these meanings become speech or writing have given us a tremendous analytical tool and made us look anew at how language is acquired.

The relationship between the underlying system of language and writing and speech is central to what psycholinguists say about the reading process. To state it most simply, linguistics suggests that written language is not simply a poor representation of something spoken or reading simply decoding these written symbols into their spoken forms. Speech and writing, they state, are parallel, but not necessarily identical, representations of an abstract system we call <u>language</u>. This parallel is similar to the relationship between the English language--an abstraction of all English used in the past and present--and the English each person speaks or writes. No one person ever realizes in his English the full potential of the abstraction of the English language.

To illustrate the significance of that relationship in a very simplistic fashion, we may look at the early speech of children. The child begins usually with some single-word utterances. As communication, the utterances do not have much power, perhaps only naming someone or something in the environment. Significantly, adults--even parents--are not always sure what the word means.

The child's word may represent a complex of abstract meanings which are quite different from the adult's language. The child's utterance milk may mean I want milk, too much milk, where is the milk, it's milk (not water), and so on. The implication is that, beyond simply naming something, the child senses milk in relation to something or someone. In order to communicate these relationships effectively to adults, the child needs more than labels; the child needs a grammar. Typically, grammar begins to emerge in two-word utterances. The child begins to say such things as want milk, Dada milk, all gone milk.

It is the delineation of the relationship of the semantic component from the syntactic component of language and the process by which the two are integrated that has enabled us to speculate more effectively about what takes place in the reading process. In the reading process, the reader is confronted with someone else's realization of language, and for it to mean something, the reader must match it to his or her own linguistic experience. That is, he or she must match the semantic element (meanings) and how they are related to each other by the linguistic elements (grammar) to his or her own language. If either the meanings or grammar cannot be matched to his or her underlying system, understanding will be difficult, perhaps impossible.

Typically, children learning to read already have a great deal of linguistic experience. They are probably relatively fluent speakers of the language, with a fair grasp of basic grammar, a good command of the sound system (although a few troublesome sounds may cause difficulty until around age 7), and a variety of linguistic and non-linguistic experiences from which they have built up a repertoire of vocabulary and meanings--quite often beyond the level of their expressive language capabilities. Reading is a psycholinguistic guessing game (Goodman, 1976) in which the readers predict--in a sense reconstruct--from their own linguistic system what the writer is saying. Their ability to do this--their comprehension--depends on using all the cues available (Smith, Goodman, and Meredith, 1976).

One set of cues--graphonics, to use Goodman's term--is largely recognition of the relationship of the written and spoken realization of language. It includes letter-sound correspondences, small words within larger words, affixes, and shapes of words. It also includes known words for which there is immediate recognition rather than a sounding out of the word, for example, brand names of household items of those seen on television. Essentially these are the cues which readers visually recognize as a part of their spoken language. The second set of cues is from the grammar of the language and effectively shows the relationship between words and groups of words. Included are such things as plural markers, verb endings (to show tense, for example), word order, function words, and so on. Punctuation marks would also be included here, with the reader recognizing the use of the question mark to represent the abstraction of question in language, realized in speech by a questioning intonation. The third group of cues--cues for meanings--signal correspondences between the writer's experience and the reader's experience. The more divergent these experiences are, as reflected in the writing, the more difficulty the reader will have in comprehension. "There must be a point of contact between what the student is expected to know and what he knows already" (Smith, 1975, p. 9).

Smith emphasizes the beginning reader's knowledge of the world as being of primary importance in reading comprehension. He refers to what is in the mind as "cognitive structure" or a "theory of the world in the head." He suggests that anything we try to comprehend which we cannot relate to our own cognitive structure is nonsense, no matter how significant or meaningful it might seem to someone else.

Smith's theory of cognitive structure is generally consistent with schema theory in contemporary psychology. It closely parallels and is perhaps easiest exemplified by what linguists have theorized and analyzed as the hierarchical nature of language. A concrete linguistic example may best illustrate:

ANIMAL

OTHERS HORSE

OTHERS FOAL

OTHERS FILLY

OTHERS ARABIAN

Animal is the label for all of the animal world; horse is one kind of animal. (There are hierarchical levels between animal and horse as well, for example vertebrate/nonvertebrate, but these are rather scientific terms learned much after for the specific purpose of hierarchical arrangement or categorization). One kind of horse--a young horse--is a foal. One category of foal--a female foal--is a filly. One kind of filly is Arabian. Notice that the hierarchical ordering does not require every item in the hierarchy. Arabian might enter the hierarchy at a higher level--say after horse. This is the result of overlapping hierarchies, based on breed, sex, and age.

Children learning the language acquire both general words (high in the hierarchy) and specific words (lower in the hierarchy), and with the experience of their environment being to learn how they fit together. If their first experience--or most meaningful experience--of an animal is a horse, they may call all animals horses for a brief time until they learn that horses are horses, cows are cows, and both are animals. Children frequently have to learn that all men are not daddy.

If we look at another example, we can see a different learning task:

VEGETABLES

OTHERS POTATOES

OTHERS FRENCH FRIES

Through concrete experience and enjoyment, children may learn a specific label such as french fries. They may even learn that french fries are related to other forms of potatoes they enjoy; however, there may be several blank levels of the hierarchy (different sizes, types, flavors) because they have no exper-

ience at the moment which give either the concept or the label.

Schema theory and cognitive structure then are attempts to explain this hierarchical system of knowledge. We all, of course, expand our knowledge by categorizing new experiences, concepts, and words, into our existing patterns of knowledge. At the linguistic level we go beyond the noun label to an expanded means of indicating greater and greater degrees of specificity; for example, the bluish-gray and white Egyptian Arabian horse, owned by Benson Farms, which is going to run in the derby, or white Maine winter potatoes baked in their skins in foil are linguistic means of specifying beyond the limits of individual labels or names. Both cognitive theories encompass more than the linguistic component, of course. We organize visual and other sensual experience in much the same way. With experiential and intellectual maturity, we organize concepts into various overlapping structures, either from top to bottom (top being more general) or from bottom to top. Comprehension of an event--an intellectual or aesthetic experience--depends on the extent to which we can associate components of the event with previous experience incorporated into these overlapping cognitive structures. The process of reading comprehension works much the same way, according to research currently being conducted. Efficient comprehension is the ability of the reader to relate the text to his own knowledge and experience. Acquiring new knowledge through reading is to incorporate new concepts from the author's experience into the reader's, in a sense filling in the blanks in the reader's emerging cognitive structure.

The reader is processing what he or she sees on the printed page at all levels of the hierarchy--sometimes bottom to top, sometimes top to bottom, sometimes filling in the blanks or gaps. For instance, if the immature but confident reader sees the sentence Tom has a big night ahead of him, processing from the top to the bottom, he or she may not know what a big night is but will assume from other uses of the word that big does not necessarily mean long, that it has something to do with size or quantity. Most importantly his or her experience in reading will have taught that what comes later will probably explain the meaning of a big night. On the other hand, a less successful reader may have to process much of the sentence from bottom to top, starting with an analysis or decoding of some individual words, discovering that ahead is made up of a group of sounds he or she already knows /_/and /hed/, even two words he or she already knows a head, but that together they have a different meaning. Most readers do both types of processing, but most reading specialists stress that where reading activities remain at the very bottom--the most specific, sound-letter decoding--the comprehension is poorer.

Renewed efforts during the past two decades toward solving the problems of the reading disadvantaged have stemmed from a socio-educational concern for the non-reader and from new research tools in linguistics, sociolinguistics, and especially psycholinguistics. These complex tools have given us considerable insight into how the brain processes information from the myriad of influences from the environment, and have provided new understanding of reading. The complexity of the theoretical reading model now approaches the complexity of the reading task itself. From this model, research can be designed to test in specific instances how children learn to read. Results from this theoretical approach to reading are far from complete, and instructional programs making use of the model and the research are only tentative. The major implication at this point is that reading is not simply a decoding

process; it is not simply a matching of letters to sounds which then unlock the mysteries of the language children already have in their heads. What children have is infinitely much more complex than that, but it may not match the complexity of what they are innocently, but inappropriately, offered to read.

Clearly, the kind of reading instruction presented in beginning stages is very influential in the reading strategies children use. If children have been taught that reading is a matter of analyzing--sounding out--each letter, or that it is memorizing the shape of each individual word, then they will use these methods until they have good reason not to--either through instruction or self-discovery.

Reading in a Second Language

The audio-lingual approach to teaching second and foreign languages, so popular in the 1950s and 1960s and still in wide use, often failed to develop efficient readers of the language. Sometimes the intention was not to develop good readers, but in many programs the second language was an academic tool, often becoming the medium of instruction somewhere along the way. In such cases, reading was the primary long-range objective. There were several factors working against success, with the result that programs ended with students trying to read college-level texts with third-grade reading skills.

First, it was often assumed that no reading instruction was necessary and that the students' ability to read in their mother tongue would carry over into the second language once they went through the first decoding process. Students no doubt did transfer their reading strategies, but they were quite often ineffective for development in either language. Without further instruction in reading, the students' strategies became fossilized at the lowest level of reading skill.

Second, students were often transferring a decoding process--if they had one--which usually did not fit English. Since the sound-letter correspondence in English is less than perfect, the students made conclusions which were inaccurate, affecting not only their reading but their pronunciation as they tried to regularize English according to their own system. Without instruction to demonstrate the extent to which written English is regular, the learner, through trial and error and based on limited linguistic data at this stage of language learning, fumbled along very slowly. This was especially the case in which learners from languages widely divergent from English tried to apply their decoding system from their mother tongue.

Third was the problem of limited linguistic data on which learners had to base their hypothesis. If one is to do a lot of "guessing" during the reading process, these guesses need to be informed by adequate data. Second-language readers are very limited in the data they have available in the language they are trying to read. They, of course, have more data--linguistic and experiential--in their own language, but as we have seen, that may present problems of a different sort. This limitation of experience in the language is especially critical for children. Adults are frustrated in their reading efforts because their linguistic experience of tables and chairs, greetings, and shopping in no way matches their desire to discuss politics and sex and life in general. Children, however, have the limitations of their own experience plus the

limited linguistic repertoire of the new language, often with cultural circumstances which make it difficult to make the second language relevant or useful. The experiences the second language tries to convey to the child are remote and meaningless, even when the individual words are understood.

The audio-lingual method was not the entire cause of these difficulties; rather it was the lack of academic success by students who had gone through the audio-lingual method which made many language teachers question our understanding of the reading process and the audio-lingual method itself.

Language Instruction and Language Arts Instruction

A typical English as a second- or foreign-language program focuses on acqusition of the second language through a program which parallels both the language arts program in the mother tongue and the remainder of the curriculum, most often taught in the mother tongue. The benefits to the student for second-language study are usually in the distant future and somewhat vague. As stated, or assumed, the goals are sometimes cultural--that is, to know a foreign language, to understand a foreign culture, and so on. Sometimes the goals are more practical, often for future use at the university or on the job. Sometimes the goals are educational--that is the second language becomes the medium of instruction at the secondary or university level. These uses have little motivational value for primary students. It is little wonder that such language programs have only modest success in preparing students for the future tasks.

The methodology in such programs emphasizes building language skills slowly and often in the fixed sequence of listening, speaking, reading, and writing. Each skill is delayed until some mastery of the previous one is assured, usually not by tests but by the sequencing of the curriculum itself. The result of such an approach to language teaching is that language becomes a subject like geography, biology, or history. Students study <u>about</u> language; they do not learn to use the language in any meaningful way.

On the other hand, a language arts program usually assumes that the primary purpose for studying the language is to become more skillful, more "artful," in the use of the language appropriate for the level of maturity of the student. The various language skills are often more integrated into communication activities involving the subject matter from the entire curriculum. When the students study health and sanitation and have work projects about them, they are learning the language of health and sanitation. In short, language is both a study in and of itself, but it is frequently demonstrated in the practical context of learning other things.

From what we know about the acquisition of language, this broader context of language use and the variety of activities possible within a language arts program have greater potential for fostering language learning--particularly with young children. Radio in a language arts program can capitalize on the variety of subject matter and skills. It can be supported by a minimum of print material, focusing on discrete items for additional practice. Through the variety offered, radio programs can be more interesting and more realistic.

An English as a second-language program and an English language arts

program typically represent two quite different approaches to teaching. In a situation in which English is meant to serve a major role as a medium of instruction or for national communication, the language arts approach is more relevant and likely to be more successful.

Radio and Reading

Learning to read is central to a language arts program. Whatever the value of accurate speech, the primary skill for academic advancement and success is reading. Reading must receive emphasis from the very beginning. Pre-reading and initial reading activities must be planned for from the very beginning. They may rely on reading in the mother tongue, but additional support activities will be necessary in English as well. Reading cannot be delayed until mastery of the aural-oral skills. Reading is a tool for both the acqusition of language itself and the knowledge and information learned in school. In learning to read, learners develop skills relating to two broad interrelated areas: the text and their own experience, and the text and their own language. This section shows how radio as a medium can aid in developing these skills, in this instance for children.

Most children are anxious to learn to read. They have a intuition--stemming from their home and other environments--that reading will open up new areas of experience. They have already spent years experimenting, playing with, testing, and expanding their own language, evidently because of some innate urge to do so. They sense that reading--particularly in a culture where they are surrounded by print--will provide them with the key to an adult world. This desire to gain access to new experience is what motivates most of us to read, either for pleasure or for information. It is true that some adults do not have any strong desire for <u>new</u> experiences--they either do not read, or they read the same type of thing over and over, repeating a familiar and pleasurable experience.

Our reading comprehension ability is tied very strongly to our experience and our ability to sort out these experiences into meaningful patterns; however, reading ability is not limited exclusively to previous experience. Through reading, one gains new experience vicariously, and one may extend, fill in, refine, incorporate this experience as part of one's own. Children--the new readers--may learn new information, usually tied to new language, which they do not have in their oral language and, in the case of second-language readers, perhaps not even in their mother tongue. The expansion of knowledge and language may come simultaneously through reading, but it is not a random collection of concepts and vocabulary. The new ideas can only be incorporated if learners can relate them in some meaningful way into their cognitive structure and linguistic repertoire.

A radio curriculum and syllabus can present an accurate and ordered sequence of experiences in the language about which, or from which, reading materials can be presented that are relevant to both the child's non-classroom and classroom experience. The in-class broadcasts can provide a common structured experience for all the children from which specific reading tasks can emerge. They aid in the development and expansion of the children's experience.

The advantage of radio as a medium is that it can present a much greater

variety of oral language experiences on which to base the reading texts. In a typical classroom, the only oral models available are the teacher (who may or may not be an adequate language model or an adequate teacher) and the other students. The burden of creating language, or even reproducing language, in real communication situations is placed in the hands of poorly equipped students themselves. The variety and range of language must come from the printed text which the student is only beginning to learn to read. The complexity of the tasks is too great for effective beginning reading instruction. On the other hand, radio can introduce these experiences--linguistic and non-linguistic--in a variety of sociolinguistic contexts (songs, rhymes, chants, dialougues, stories, games) using a realistic variety of speakers representing real people (children, adults, funny people, serious people, teachers, waiters, secretaries, farmers, and so on).

It is the range and variety of language use presented orally, to which the listener can respond both through structured activities, that gives radio its advantage over the typical second-language classroom. The experiences presented can be (1) structured--so that a controlled amount of new information is presented and repeated; (2) accurate--so that all language used, although varied in contexts, reflects real language use; and (3) common--so that all learners have a core of common experiences on which reading materials and lessons can be based. Anyone learning to read will have to have print materials, but radio can provide the language experience and direct language activities leading to the print in an effective and economical way. In the oral world of the non-reader or beginning reader, radio provides an extension of his or her real world through an entertaining and dramatic medium that few individual classroom teachers can match, and which print, as the sole medium, cannot match.

Twenty-five or thiry years ago it was generally accepted that reading in a second language would only be successful after an extensive period of oral instruction, practice, and facility with the language. This usually took six months to a year of classroom instruction in much the way one learns to read the first language after several years of oral practice. It is now generally agreed that this long period of exclusively aural-oral work is not necessary; rather, it is suggested that reading and writing can be introduced early in language learning activities by giving still other modes for trial and practice. Although there is no agreed-upon precise time for introducing reading, it is felt that the language experience the learner already has in his or her first language, plus ongoing instruction in the second language, can serve as an adequate bridge to the introduction of reading. The benefits of having the reading skill develop side by side with the aural-oral skills far outweigh the difficulties of trying to teach reading skills from a limited repertoire.

Reading comprehension requires analysis by the reader of three sets of cues. These are the same cues, in most instances, required in aural comprehension of speech. The additional unique cues in reading are the sound-letter correspondences, the easiest part of learning to read--even in English. Many of the activities then which enable a learner to become a good reader are common in any language-learning activity. The processes by which a learner masters a language carry over into his ability to read successfully. Mastery does not mean that the learner must be a perfect producer of the language since production is quite different from comprehension in the psycho-sociolinguistic investment required by the producer.

The major generalization one can make about the relationship between the child's linguistic ability and the text he or she is reading is that genuine reading does not occur if the reader makes use of only one set of cues out of the three delineated by Goodman. To illustrate, children with some experience in reading may, in reading aloud, be able to pronounce many words they do not know the meaning of. This demonstrates mastery of the graphophonic component of language, but it is not genuine reading if they do not understand the meaning. This is frequently the case of adults learning a second language closely related to their first. They can quickly pick up the sound-letter correspondences using their first language system.

Reciting the names of things is not communication. Reading those names from flash cards is not genuine reading either, unless the reader can recognize the same words in meaningful sentence contexts. The use of words--new vocabulary, for example--must be tied to some communicative function for those words. Beginning speech and reading should communicate, even if it is childlike, too abstract, or with errors. Developing an ability to understand the relationships between words (the grammar of the language) and the meanings conveyed by words in relationship to each other (the semantics of the language) is more important than initially error-free performance in speaking. Initial reading need not be in cumbersome or complex sentences to develop this skill, but it should demonstrate simple syntactical relationships such as prepositional phrases, word order in noun phrases, simple clauses, and so on, and this should be done in language that people actually use. Preferably it would be done using language that has some immediate relevance or utility to the learner. It is quite clear that the beginning readers who have had the most extensive and varied linguistic and non-linguistic experiences are the most successful readers. They bring the greatest understanding--unconscious usually--of how language works to the task and make the greatest gains because they sense how reading is another facet of the same process.

It is possible, therefore, to address the same problem of comprehension through the oral medium as well as through print. In fact, time spent on aural comprehension might show greater results than working exclusively with print. The way in which events, actions, and objects acquire or achieve meaning--and how these meanings are classified, categorized, patterned, and so on--can be taught through structured language activities that make use of the language, and the way they are related take the learner beyond the single vocabulary items and basic structures so common in school texts.

Language learners do, however, need practice in the individual linguistic elements of the language: sounds, words, grammar. In reading they need practice in recognition of the cues from each of these areas. For the purposes of practice, then, each of the linguistic elements or sets of cues can be isolated, then integrated into communicative activities with additional practice. Radio is an ideal medium for some of the necessary practice required to master different sounds of new language, to repeat in a variety of ways the grammatical devices in the language (question forms, for example), and to practice a new vocabulary in entertaining but extensive contexts. Drills focusing on a single linguistic feature can be presented for listening in a number of different contexts, with oral practice by the students in the classroom cued by the radio format. Brief follow-up activities by the teacher and

pencil-and-paper activities can reinforce the practice, as well as test the progress of the students. Many of these activities can be more effective by radio than through print.

Conclusion

During the 1980s, predicted world economic conditions suggest that educational budgets will not expand at the same rate as student populations. The desire, indeed the necessity, for emerging countries to use English as an international language for educational and economic development, and the wish to do a more credible job in teaching indigenous languages for cultural identity and national solidarity, will place a heavy burden on educational budgets. Efficient but economical techniques for teaching languages are critical to successful educational development in these countries.

One proven, cost-effective medium of communication is radio. It already holds a strong position in many emerging countries as an educational medium. As a medium, radio establishes a link that enables the listener to establish language contact with a variety of people in a number of different roles and situations. It can expand the learner's sociolinguistic environment in a far more immediate way than can a single teacher or the learners playing roles. Radio has demonstrated its effectiveness in stimulating the minds and imaginations of listeners in both entertainment and education. Radio programs, designed to encourage and foster the listener's participation in activities directed by the radio, stand a good chance of involving students in a way which is both more motivating and concrete.

Radio, then, can play the major role in developing the necessary skills that make successful readers. It cannot develop reading skills without print in the learners' hands, but print in low-income countries is an expensive medium, whether the government or the children pay for the texts. Print is also rigid and fixed. It is difficult to build in the necessary flexibility to meet the diverse needs of students. Print materials have a way of becoming sacred as well. Teachers become comfortable with their old books, sometimes at the expense of selecting more relevant new materials. Radio can avoid some of these problems, while at the same time doing an excellent job in teaching the language. Combined with a minimum of print material, it can provide an economical teaching medium. It can give learners the language experience which will make the printed material relevant to their needs for the second language, the linguistic exercises and practice that will enable them to successfully decode the printed text, and the extra-linguistic experiences that will help learners expand their knowledge and view of their environment so that intellectual growth and language growth can occur rapidly during the very formative years of primary education.

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